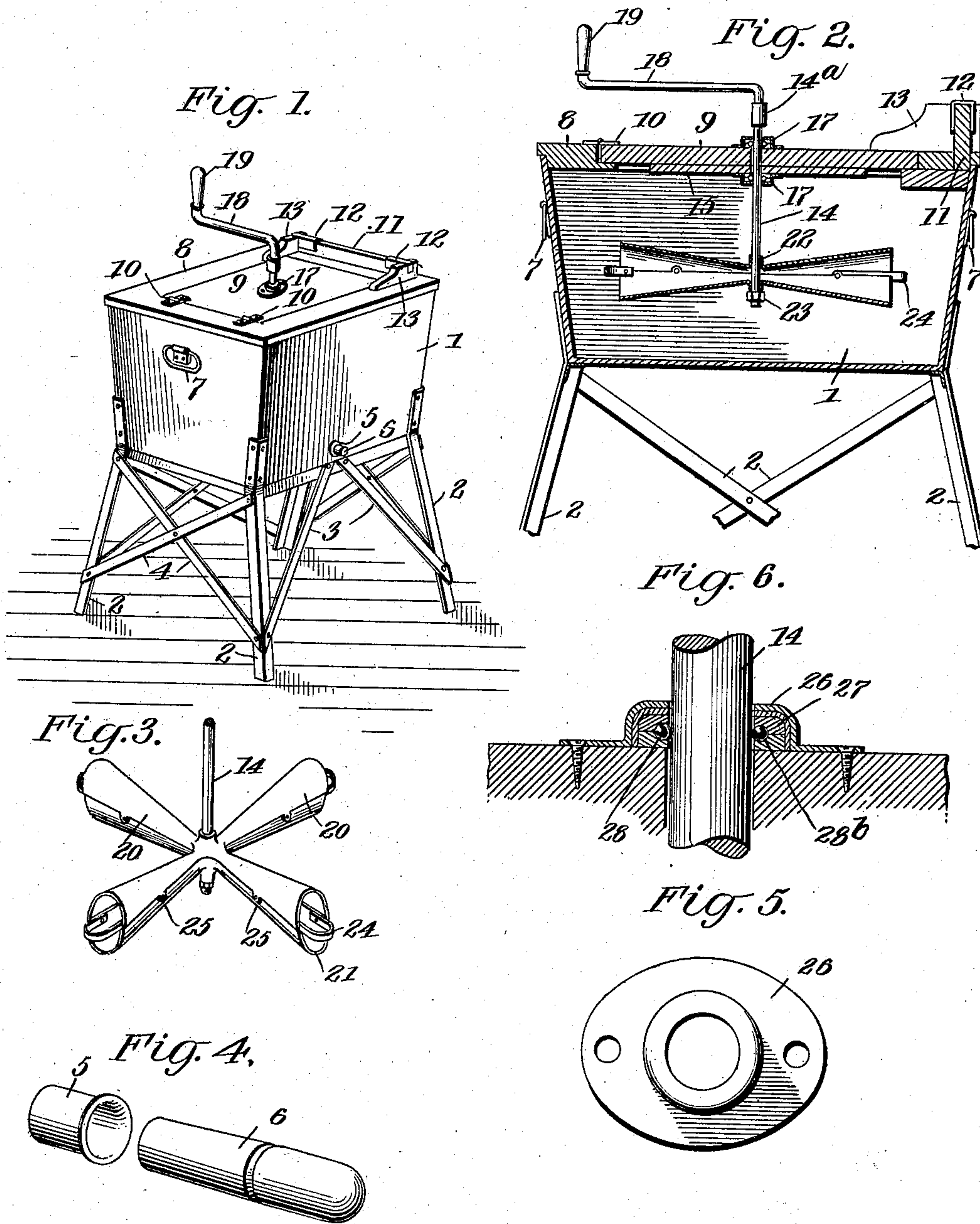


J. ST. C. JAMES.  
AGITATOR FOR WASHING MACHINES.  
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900,547.

Patented Oct. 6, 1908.



WITNESSES  
Samuel E. Wade.  
C. E. Trainor.

INVENTOR  
JAMES S. JAMES,  
BY Munn & Co.  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

JAMES ST. CLAIR JAMES, OF HIAWATHA, KANSAS.

## AGITATOR FOR WASHING-MACHINES.

No. 900,547.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed March 18, 1908. Serial No. 421,836.

*To all whom it may concern:*

Be it known that I, JAMES ST. CLAIR JAMES, a citizen of the United States, and a resident of Hiawatha, in the county of Brown and State of Kansas, have made certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention is an improvement in washing machines, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof, Figure 1 is a perspective view of the machine. Fig. 2 is a vertical transverse section. Fig. 3 is a perspective view of the agitator. Fig. 4 is a perspective view of the waste pipe and the plug therefor. Fig. 5 is a plan view of the bearing for the shaft of the agitator. Fig. 6 is a sectional view of the same.

The present embodiment of my invention comprises a tub 1 of suitable shape and material, in the present instance, rectangular in cross section, the tub being supported by legs 2, which are suitably braced against the tub by braces 3, or against each other by braces 4, as shown in Fig. 1. The tub is provided with an outlet spout 5, near the bottom thereof, which is normally closed by a plug 6.

Handles 7 are provided for convenience in handling the tub, and the tub is provided with a top 8 of wood or other suitable material, having a central opening in which is hinged a cover 9, by hinges 10. A support 11 is provided at one side of the tub for a wringer, not shown, the support being provided on its edge with reinforcing plates 12, of metal, and the support is braced by braces 13. At approximately the center of the top 9, a central opening is provided, through which extends the shaft 14 of the agitator, and a reinforcing plate 15 is arranged on the under face of the cover and encircling the shaft 14, the said plate having a ball bearing 17 connected therewith. A second ball bearing is arranged on the upper face of the cover and encircling the shaft, the bearing comprising the outer casing 26, and an inner casing 28 arranged within the casing 26, the said casing being provided with a ball holder 27, for receiving the balls 28<sup>b</sup>.

The agitator comprises a plurality of cone-shaped bodies 20, having their small ends connected with the shaft 14, the large ends radiating outwardly at right angles to each

other. The cone-shaped bodies are four in number, in the present instance, and are composed of an upper plate and a lower plate, the upper plate forming the upper half of the bodies, and the lower plate the lower half 21 of the said bodies. The plates are each cut out to form a central portion with four radiating arms, and the arms are bent in substantially semi-circular form, as shown in Fig. 3, the arms of the upper and lower plate being provided with ears 25, which are suitably secured to the edges of the arms of the lower plate by rivets. A strap 24 is connected by the rivets securing the ears 25 with each side of each of the cone shaped bodies and extends outwardly from the end thereof in curved form, as shown in Fig. 3.

The shaft 14 of the agitator is provided with a crank portion 18, having a handle 19, whereby to rotate the agitator. It will be evident that by turning the cover 9 outwardly upon its hinges, the agitator may be removed from the tub, thus giving free access to the material therein.

In operation, the shaft 14 is rotated by means of the handle 19, and the agitator may be given a rising and falling motion in the tub by moving the shaft 14 through the ball bearings. It will be noticed that a sleeve 14<sup>a</sup> is arranged on the shaft above the cover to limit the downward movement of the agitator, and that a collar 22 is arranged above the agitator to prevent upward movement thereof, the lower end of the shaft 14 being threaded and provided with a nut 23 for retaining the agitator against the collar 22.

The base ends of the cone-shaped bodies on striking the water during the rising and falling movement of the agitator, tend to move the water towards the center of the tub, and when the agitator is lifted, the water returns towards the periphery of the tub. It will be noticed that the hollow portion of one of the bodies is continuous with the hollow portion of all the other bodies so that the water can pass freely through, but the straps 24 prevent the entrance of the clothes in the tub into the hollow bodies.

The arrangement of the braces 3, shown in Fig. 1, is to permit the placing of a bucket underneath the spout 5 when the tub is to be emptied. It will be observed that braces are connected with the tub and with the legs, affording ample room for the bucket. It will be noticed from an inspection of Fig. 4,



that the outlet spout 5 of the tub is conical in shape, as is also the plug 6, this arrangement providing for an efficient closure for the outlet when the plug is inserted. It is  
5 not necessary to tilt the tub to drain the water into the bucket, on account of the form of bracing.

The arrangement of the ball bearings provides for an easy movement of the shaft 14,  
10 either when rotated or when moved longitudinally and the cap 26 retains the bearing firmly in place.

I claim:

A washing machine, comprising a tub  
15 having a cover hinged thereto, a shaft jour-

naled in the cover and mounted for sliding movement therethrough, a handle for manipulating the shaft, and an agitator comprising a plurality of hollow cone-shaped bodies open at their outer ends connected with the shaft and radiating therefrom, said bodies  
20 having their apexes connected with the support and being arranged at right angles to each other, the outer end of each of the said bodies being provided with a curved strap  
25 thereacross, for the purpose set forth.

JAMES ST. CLAIR JAMES.

Witnesses:

J. W. HARRIS,

J. F. MEISENHEIMER.